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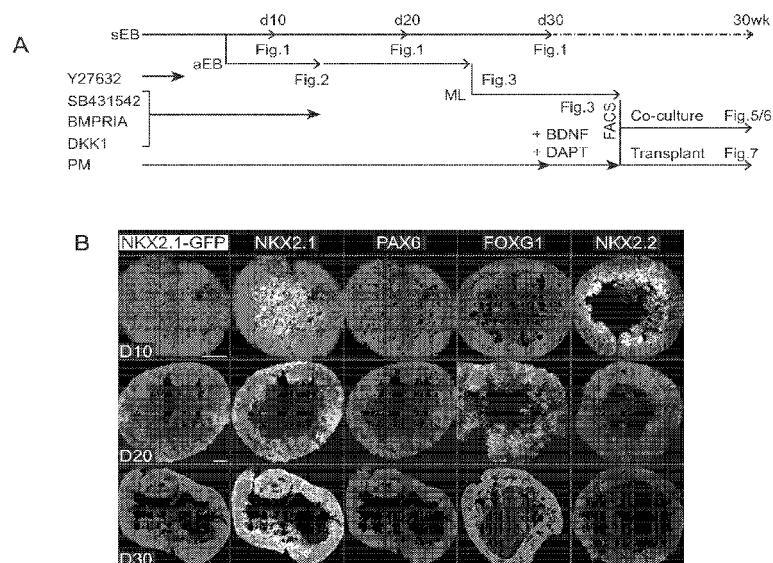
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(54) **IN VITRO PRODUCTION OF MEDIAL GANGLIONIC EMINENCE PRECURSOR CELLS**

(57) Methods and systems for generating MGE precursor cells in vitro as well as compositions of enriched MGE precursor cells are provided. The methods and systems provide efficient production of MGE precursors.

The methods and systems disclosed herein provide functional MGE precursors which differentiate into functional GABAergic interneurons.



**FIG. 1**



## EUROPEAN SEARCH REPORT

Application Number

EP 24 21 6788

## DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X,P	CORY R. NICHOLAS ET AL: "Functional Maturation of hPSC-Derived Forebrain Interneurons Requires an Extended Timeline and Mimics Human Neural Development", CELL STEM CELL, vol. 12, no. 5, 1 May 2013 (2013-05-01), pages 573-586, XP055741910, AMSTERDAM, NL ISSN: 1934-5909, DOI: 10.1016/j.stem.2013.04.005 * page 573; figure 1B *	1-9	INV. C12N5/071 C12N5/00 C12N5/02
A	CRAWFORD T QUINN ET AL: "The Notch response inhibitor DAPT enhances neuronal differentiation in embryonic stem cell-derived embryoid bodies independently of Sonic Hedgehog signaling", DEVELOPMENTAL DYNAMICS, WILEY-LISS INC NEW YORK, NY, US, vol. 236, no. 3, 1 March 2007 (2007-03-01), pages 886-892, XP002537459, ISSN: 1058-8388, DOI: 10.1002/DVDY.21083 * page 886 *	1-9	TECHNICAL FIELDS SEARCHED (IPC)
A	PETRYNIAK MAGDALENA A. ET AL: "Dlx1 and Dlx2 Control Neuronal versus Oligodendroglial Cell Fate Acquisition in the Developing Forebrain", NEURON, vol. 55, no. 3, 1 August 2007 (2007-08-01), pages 417-433, XP093184044, AMSTERDAM, NL ISSN: 0896-6273, DOI: 10.1016/j.neuron.2007.06.036 * page 417 *	1-9	C12N A61P
The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>9 May 2025</b>	Examiner <b>Paresce, Donata</b>
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	